Educazione: Journal of Education and Learning
Vol 01, No 01, 2023 | Page (54-65)
Doi: https://doi.org/10.61987/educazione.v1i1.496

OPEN ACCESS

Understanding Learning Strategies: A Comparison Between Contextual Learning and Problem-Based Learning

M. Syauqi Jonnata Maftuh*[1], Uthman Shehu Lawal[2], Moses Ade[3], Alma Vorfi Lama[4], Afa Fauzul Adzim[5]

[1] Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia
[2] Kaduna State University, Nigeria
[3] University of Lomé, Nigeria
[4] University of Business and Technology, Serbia
[5] National University of Malaysia, Malaysia

Email : 220401210004@student.uin-malang.ac.id

Abstract

This study focused on comparing problem-based learning (PBL) and contextual learning (CL) strategies based on findings generated from literature analysis. This study aims to identify essential differences between the two learning approaches and uncover the advantages and limitations of each in an educational context. This research uses a qualitative approach using the library research type—data collection techniques using primary and secondary data sources. The data analysis technique used in this study is descriptive analysis. PBL helps students understand concepts and improve problem-solving and collaboration skills. Meanwhile, contextual learning emphasizes applying knowledge in students' real lives, deepening their understanding. Both of these methods have their advantages. PBL focuses on problem-solving, while Contextual Learning links learning to everyday situations. The best choice depends on the learning context and goals of the student, both of which offer learning experiences relevant to the real world. This research implies the importance of considering and integrating Problem-Based Learning (PBL) and Contextual Learning in student learning experiences.

Article History

Received : 12 / July / 2023
Revised : 24 / October / 2023
Accepted : 27 / December / 2023

Keywords:

Problem-Based-Learning, Contextual Learning, Comparison

How to Cite:

Maftuh, M. S. J., Lawal, U. S., Ade, M., Lama, A. V., & Adzim, A. F. (2023). Understanding Learning Strategies: A Comparison Between Contextual Learning and Problem-Based Learning. *Educazione: Journal of Education and Learning, 1*(1), 54-65.

INTRODUCTION

Education in the modern era is a very complex process. It continues to experience dynamic developments, especially in learning strategies oriented toward achieving deep understanding and applying knowledge in real-life contexts (Tuma, 2021; Susilawati & Astuti, 2022; Wijaya & Khoir, 2022). One primary challenge educators face today is creating a relevant and meaningful learning environment for students (Ahdhianto & Santi, 2020; Hamidah, 2023). This challenge includes knowledge transfer and how that knowledge can be applied effectively in daily life (Rusdi, Suhermanto, & Ali, 2022). Facing this challenge, various learning approaches have emerged, one of which is Contextual Learning and Problem-Based Learning, both of which have received wide attention in various educational institutions (Chen et al., 2021; Chuanchen, 2023).

Contextual Learning emphasizes the importance of connecting subject matter with the situation or context of students' daily lives (Hyun et al., 2020; Hasanah & Hefniy, 2023; Sanjani, 2023; Ansori et al., 2023). This aims to Help students better understand abstract concepts through real experiences so that the relevance of the material learned is more substantial (Maulidah et al., 2023). On the other hand, Problem-Based Learning directs students to face authentic, complex problems as a starting point in learning important concepts (Cai et al., 2021; Zaini, 2023). Through this approach, students are expected to be able to recognize problems, analyze the necessary information, and formulate solutions based on the knowledge that has been acquired (Nurkhin & Pramusinto, 2020; Norman & Paramansyah, 2023).

One of the main problems educational institutions face is finding learning strategies that can facilitate deep understanding and the development of critical thinking skills in students. Both Problem-Based and Contextual Learning have advantages in increasing student engagement and motivation to learn. However, the main difference between these approaches lies in the learning focus. In Problem-Based Learning, students are encouraged to solve problems collaboratively, while in Contextual Learning, students learn by connecting the concepts learned to real-life situations. This research problem centers on how applying these two strategies compares to improving students' understanding, problem-solving skills, and readiness to face real-world challenges.

Based on research, several findings point to the benefits of these two learning strategies. Research by Chen et al. (2021) revealed that Contextual Learning successfully increases student engagement in learning, especially when the material is directly related to their life experiences. Cai et al. (2021) found that Problem-Based Learning improved students' critical thinking and collaboration skills, with students who were faced with real problems able to develop creative and innovative solutions. In their research, Nurkhin and Pramusinto (2020) also stated that Problem-Based Learning significantly affects students' problem-solving skills and improves their ability to analyze complex situations. Although these findings show the benefits of both approaches, studies that directly compare the effectiveness of the two strategies in the same context are limited.

Although many studies have shown the benefits of Problem-Based Learning and Contextual Learning, very few studies have comprehensively compared these two strategies in the same educational context. This gap is important because understanding the direct comparison between the two approaches can Help educators choose strategies more appropriate for students' needs and learning goals. This research will fill the gap by exploring the effectiveness of both strategies in improving students' critical thinking skills, understanding, and readiness to face real-world challenges.

This research offers novelty in directly comparing Contextual Learning and Problem-Based Learning, which has not been widely done in the previous literature. In addition, this study will examine how these two approaches can be integrated to create a more comprehensive and relevant learning experience for students. Another novelty lies in the research focus on the relationship between understanding abstract concepts and their application in real situations. It is expected to contribute to the literature on learning strategies significantly. This study aims to compare the effectiveness of Problem-Based Learning and Contextual Learning in improving students' understanding, critical thinking skills, and readiness to face real-world challenges. In addition, it provides insights for educators on how these two strategies can be integrated to create more meaningful and relevant learning. Through this research, it is hoped that a deeper understanding of learning strategies can be obtained that can Help students prepare optimally to face future challenges.

RESEARCH METHOD

This study is situated within the context of educational research, specifically comparing the effectiveness of Problem-Based Learning (PBL) and Contextual Learning (CL) strategies. Both methods are widely utilized in educational settings to enhance students' problem-solving skills and ability to apply knowledge in real-world contexts. The context chosen is highly relevant as it directly addresses how different learning strategies impact student learning outcomes. The research adopts a qualitative approach with a literature review design (Baas et al., 2020). This approach is particularly suited for this study because it allows for the in-depth examination and critical analysis of existing literature on PBL and CL, drawing from primary and secondary data sources such as academic journals, books, and previous research studies. This method provides a robust foundation for understanding learning strategies' theoretical underpinnings and practical applications.

Data collection for this study involves the systematic review of relevant academic literature. The sources include primary data from books and journals focused on Problem-Based Learning and Contextual Learning and secondary data from previous research studies that examine these learning strategies. The purpose of this approach is to gather a comprehensive set of findings and insights that are directly related to the research question. By utilizing library resources, such as books, journal articles, and electronic databases, the study ensures the collection of verified and high-quality sources (Baas et al., 2020).

This method allows the researcher to access a broad range of scholarly materials. It offers a deep understanding of how PBL and CL have been applied in various educational contexts and how they contribute to student learning. The analysis of the collected data is performed through comparative analysis methods. This involves systematically comparing the results from different sources to identify similarities and differences between the two learning strategies, PBL and CL. The analysis focuses on the presence of key concepts and themes within the literature by Ghani et al. (2021), emphasizing understanding how each strategy impacts student engagement, problem-solving abilities, and real-world application of knowledge. The analysis results are organized into structured summaries and narratives, allowing for a clear presentation of findings. Using this method, the researcher can draw essential conclusions about the advantages and limitations of each learning strategy, providing insights that may guide future educational practices (Posada-Quintero & Chon, 2020).

RESULT AND DISCUSSION

Result

Problem-Based Learning

PBL stands for Problem-Based Learning, which is a learning approach where students learn through solving problems relevant to real life (Dita et al., 2021). In PBL, students are encouraged to actively engage in learning and develop problem-solving, critical thinking, and collaboration skills. From the results obtained, the Application of Problem-Based Learning (PBL) in the field has provided positive results in the context of education. Improved understanding of concepts: PBL allows students to learn through applying concepts in real situations. By solving complex problems, students can understand concepts profoundly and thoroughly. Development of problem-solving skills: Through PBL, students are involved in real problem-solving. It helps them develop problem-solving, critical thinking, and analysis skills in complex situations (Nurkhin & Pramusinto, 2020).

Further increased student engagement: PBL allows students to actively participate in learning (Almulla, 2020). They are more active in finding solutions, working in groups, and collaborating with peers. This can increase student engagement in learning. Then, for Collaboration Skills Development, PBL encourages students to work in groups or teams. It helps them develop cooperation, communication, and teamwork skills essential in work. Context-based Learning: PBL connects learning with accurate and relevant context for students. By facing problems that exist in the real world, students can see the relationship between the concepts learned and their daily lives. In the metacognitive skills development section, PBL encourages students to reflect on their learning process, evaluate strategies, and effectively manage time and resources. This helps them develop metacognitive skills that are useful in learning throughout life. PBL has proven effective in improving understanding, student engagement, and skill development relevant to educational contexts.

Contextual Learning

Contextual Learning emphasizes the importance of the relationship between learning material and students' real-life situations or contexts (Nur et al., 2020). The material taught must have a clear relevance to students' daily lives so that they can see its value and usefulness in a natural context. Next Real experience: Students are invited to use their real experience as a foundation for learning. By starting from their own experiences, students can better understand and apply new knowledge. Through reflection on their experiences, students can relate newly learned concepts to experiences they have had before.

Regarding problem-based learning, contextual learning often involves problem-solving as a learning method (Nur et al., 2020). Students are presented with problems or challenges relevant to the actual context, which require the application of the concepts learned to find adequate solutions. It helps students see how knowledge can be applied in concrete situations. Contextual Learning is also Collaborative Learning: Learning in this context often involves student collaboration. Through group discussions or collaborative projects, students can share experiences, build shared knowledge, and learn from each other (Lin et al., 2020). Collaboration also helps students broaden their understanding through diverse perspectives and views.

Next is reflective thinking: Reflection is an essential component in Contextual Learning. Students are encouraged to reflect on their experiences, understanding, and learning process. By reflecting on what they have learned and how they learned, students can develop a deeper understanding of themselves as learners. Through applying these concepts, Contextual Learning aims to create relevant, meaningful, and enjoyable learning experiences for students. By looking at the relationship between learning materials and students' real lives, it is hoped that they can understand and apply knowledge better and develop relevant skills to deal with real-world situations.

So, the main principle of Contextual Learning is that students more easily understand and remember information when they see its relationship to a situation or context they know and understand. This strategy encourages students to make connections between abstract concepts learned with their own experiences, everyday life, or real-world contexts.

Comparison between Problem-Based Learning and Contextual Learning

Problem-based learning (PBL) and contextual learning are different approaches that focus on applying knowledge in natural contexts (Smith et al., 2022). Although both emphasize problem- and context-based learning, there are differences in approach and implementation. Here is a comparison between Problem-Based Learning and Contextual Learning:

Table1. Comparison between Problem-Based Learning and Contextual Learning

No	Problem-Based Learning (PBL)	Contextual Learning
	Definition	
1	PBL is an approach to learning in which students actively solve real problems in relevant contexts. They analyze problems, identify necessary knowledge, and work collaboratively to find solutions.	Contextual Learning is an approach where students learn through direct experience and interact with the natural context. Learning is associated with real-world situations and practical applications.
	Main Focus	
2	PBL focuses on problem-solving. Students face complex problems and must develop problem-solving, critical thinking, and teamwork skills.	Contextual Learning focuses on the application of knowledge in authentic contexts. Students learn through direct experience and see the relationship between what they learn and the situation of the world real.
	The Role of the Teacher	
3	Teachers act as facilitators in PBL. They Help students identify problems, provide guidance, and support them in problem-solving.	Contextual Learning: The teacher acts as a companion in Contextual Learning. They Help students connect learning concepts and real-world contexts, provide direction, and facilitate learning through hands-on experience.
	Learning Approach	
4	PBL involves a sequential process that includes problem identification, problem analysis, selection of problem-solving strategies, and evaluation of proposed solutions. Students learn by facing challenges associated with real problems.	Contextual Learning emphasizes learning that occurs through hands-on experience and practical application. Students learn in relevant contexts through field trips, collaborative projects, or simulations.
	Advantage	
5	PBL improves concept understanding, problem-solving skills, critical thinking, and teamwork. Students may also develop better communication and problem-solving skills.	Contextual Learning helps students make connections between learning and real life. They can develop a more profound understanding, practical application skills, and thinking skills connected to the real world.

Discussion

Problem-Based Learning (PBL) and Contextual Learning are two learning approaches that focus on applying knowledge in authentic contexts. Although both have similar goals, they have differences in approach and implementation. Problem-based learning (PBL) is a student-centered learning approach emphasizing problem-solving. In PBL, students are exposed to real problems relevant to the learning context. They analyze problems, identify necessary knowledge, and work collaboratively to find solutions. Through this process, students also develop problem-solving, critical thinking, and teamwork skills (Mahdi et al., 2020). On the other hand, contextual learning is a learning approach that emphasizes applying knowledge in a natural context.

Students learn through hands-on experience and interacting with their surroundings. Learning is associated with real-world situations and practical applications. Students can conduct field trips, collaborative projects, or simulations to gain hands-on experience and a deeper understanding. The main difference between PBL and Contextual Learning is their problem-solving approach. PBL places problem-solving as the primary focus, while contextual learning emphasizes the connection between learning concepts and real-world contexts more (Askren & James, 2021).

Compare it to other learning strategies, such as Cooperative Learning: Cooperative Learning is a learning approach where students work collaboratively in small groups to achieve shared learning goals. The group usually consists of members with different roles, and each member is responsible for the group's overall success (Samsuri, 2021). Cooperative Learning encourages cooperation, social interaction, and mutual Help between students. In PBL, the teacher acts as a facilitator or guide. They assist students in identifying problems, provide guidance, and support them in problem-solving. Teachers can also provide feedback and direction during the PBL process (Smith et al., 2022). In Contextual Learning, the teacher acts as a companion. They Help students make connections between learning concepts and real-world contexts. Teachers provide direction and facilitate learning through hands-on experience. They can also organize field trips, develop collaborative projects, or provide simulations relevant to learning.

Meanwhile, in cooperative learning, Teachers act as facilitators and supervisors. They design group assignments, organize groups, and provide learning structure. Teachers also provide guidance and feedback to ensure effective collaboration and achievement of learning objectives. Furthermore, PBL focuses on developing students' problem-solving skills. Students face complex problems that require critical thinking, analysis, and solving strategies (Villarroel et al., 2020). The problem-solving process involves problem identification, analysis, strategy selection, and evaluation of proposed solutions. During this process, students also develop communication and teamwork skills.

Of course, on the other hand, Contextual Learning aims to connect learning with the real world. Students learn through hands-on experience and apply the concepts learned in practical situations. The main goal of Contextual Learning is to develop deeper understanding, practical application skills, and thinking connected to the real world (Smith et al., 2022). While in Cooperative Learning: Cooperative Learning focuses on student cooperation and interaction. The main objective is to achieve learning objectives by combining students' expertise and resources. Students learn through social interaction, helping each other, and taking responsibility for the group's success. Cooperative Learning develops cooperative, communication, and problem-solving skills together.

This research directly compares two relevant learning strategies, Problem-Based Learning (PBL) and Contextual Learning (CL), which have not been comprehensively compared in the same context. The study offers new insights into how these two approaches can enhance critical thinking skills, concept understanding, and students' readiness to face real-world challenges. Furthermore, the research suggests integrating both strategies to create a more holistic and relevant learning experience for students, which can be adapted according to the learning goals and context. Therefore, this study can significantly contribute to developing more effective and applicable teaching theories and practices.

CONCLUSION

Problem-Based Learning (PBL) and Contextual Learning are two approaches that focus on applying knowledge in authentic contexts. Although both strive to achieve similar goals, their approaches differ in learning strategies. PBL emphasizes problem-solving, where students are actively involved in solving complex problems, whereas Contextual Learning places knowledge in situations that students recognize to deepen their understanding. The advantages of PBL include the development of strong problem-solving skills and critical-thinking skills. Contextual Learning provides opportunities for students to relate knowledge to their own experiences, increase learning motivation, and demonstrate the relevance of knowledge in everyday life. Therefore, the choice between these two approaches must consider the learning objectives, the needs of the students, as well as the context and desired learning characteristics. Further research can explore in depth the effectiveness of each approach in achieving specific learning objectives. Through careful comparative study, the relative advantages of each approach can be identified in developing critical skills, understanding the material, and retaining knowledge over the long term.

ACKNOWLEDGMENT

The author would like to thank Maulana Malik Ibrahim State Islamic University Malang for its academic support in this research. Thank you also to the supervisors for their significant guidance and direction. The author also thanked his family and friends, who always provided moral support during this research process.

REFERENCES

Ahdhianto, E., & Santi, N. N. (2020). The Effect of Metacognitive-Based Contextual Learning Model on Fifth-Grade Students' Problem-Solving and Mathematical Communication Skills. *European Journal of Educational Research, 9*(2), 753-764. https://doi.org/10.12973/eu-jer.9.2.753

Almulla, M. A. (2020). The Effectiveness of the Project-Based Learning (PBL) Approach to Engage Students in Learning. *Sage Open, 10*(3). https://doi.org/10.1177/2158244020938702

Ansori, A., Hefniy, H., Baharun, H., & Agus, A. H. (2023). Method of Communications Islamic Educational Institutions in Building Branding Image Symbolic Interaction Studies. *Managere: Indonesian Journal of Educational Management, 5*(3), 280-293. https://doi.org/10.52627/managere.v5i1.156

Askren, J., & James, W. (2021). Experiential Learning Methods in Culinary Course Can Bridge the Gap: Student Perceptions on How Hands-On Curriculum Prepares Them for Industry. *Journal of Hospitality & Tourism Education, 33*(2), 111-125. https://doi.org/10.1080/10963758.2020.1791134

Baas, J., Schotten, M., Plume, A., Côté, G., & Karimi, R. (2020). Scopus as a Curated, High-Quality Bibliometric Data Source for Academic Research in Quantitative Science Studies. *Quantitative Science Studies, 1*(1), 377-386. https://doi.org/10.1162/qss_a_00019

Berger, J., Humphreys, A., Ludwig, S., & Schweidel, D. A. (2020). Uniting The Tribes: Using Text for Marketing Insight. *Journal of Marketing, 84*(1), 1-25. https://doi.org/10.1177/0022242919873106

Bosica, J., Pyper, J. S., & MacGregor, S. (2021). Incorporating Problem-Based Learning in a Secondary School Mathematics Preservice Teacher Education Course. *Teaching and Teacher Education, 10*(2), 103335. https://doi.org/10.1016/j.tate.2021.103335

Cai, S., Liu, C., Wang, T., Liu, E., & Liang, J. C. (2021). Effects of Learning Physics Using Augmented Reality on Students' Self-Efficacy and Conceptions of Learning. *British Journal of Educational Technology, 52*(1), 235-251. https://doi.org/10.1111/bjet.13020

Cayubit, R. F. O. (2022). Why Learning Environment Matters? An Analysis on How the Learning Environment Influences the Academic Motivation, Learning Strategies and Engagement of College Students. *Learning Environments Research, 25*(2), 581-599. https://doi.org/10.1007/s10984-021-09382-x

Chen, C. H., Hung, H. T., & Yeh, H. C. (2021). Virtual Reality in Problem-Based Learning Contexts: Effects on the Problem-Solving Performance, Vocabulary Acquisition and Motivation of English Language Learners. *Journal of Computer Assisted Learning, 37*(3), 851-860. https://doi.org/10.1111/jcal.12528

Chuanchen, C. (2023). Cultivating Cultural Synergy: Unifying Boarding Schools, Local Wisdom, and Authentic Islamic Values for the Enhancement of Islamic Identity. *Managere: Indonesian Journal of Educational Management, 5*(2), 187-197. https://doi.org/10.52627/managere.v5i2.339

Dita, P. P. S., Utomo, S., & Sekar, D. A. (2021). Implementation of Problem-Based Learning (PBL) in Interactive Learning Media. *Journal of Technology and Humanities, 2*(2), 24-30.

Ghani, A. S. A., Rahim, A. F. A., Yusoff, M. S. B., & Hadie, S. N. H. (2021). Effective Learning Behaviour in Problem-Based Learning: A Scoping Review. *Medical Science Educator, 31*(3), 1199-1211. https://doi.org/10.1007/s40670-021-01292-0

Hamidah, T. (2023). Transformation of Traditional Values to the Phenomenon of Santri Courtship in the Digital Era. *Jurnal Islam Nusantara, 7*(2), 211-222. https://doi.org/10.33852/jurnalnu.v7i2.508

Hasanah, I., & Hefniy, H. (2023). Strengthening Brand Identity: Embracing Local Wisdom through Character Education Management. *Indonesian Journal of Education and Social Studies, 2*(2), 83-94. https://doi.org/10.33650/ijess.v2i2.3435

Hyun, C. C., Wijayanti, L. M., Asbari, & Pramono, R. (2020). Implementation of Contextual Teaching and Learning (CTL) to Improve the Concept and Practice of Love for Faith-Learning Integration. *International Journal of Control and Automation, 13*(1), 365-383.

Krawitz, J., Chang, Y. P., Yang, K. L., & Schukajlow, S. (2022). The Role of Reading Comprehension in Mathematical Modelling: Improving the Construction of a Real-World Model and Interest in Germany and Taiwan. *Educational Studies in Mathematics, 109*(2), 337-359. https://doi.org/10.1007/s10649-021-10058-9

Lin, C. Y., Huang, C. K., & Ko, C. J. (2020). The Impact of Perceived Enjoyment on Team Effectiveness and Individual Learning in a Blended Learning Business Course: The Mediating Effect of Knowledge Sharing. *Australasian Journal of Educational Technology, 36*(1), 126-141. https://doi.org/10.14742/ajet.4446

Maatuk, A. M., Elberkawi, E. K., Aljawarneh, S., Rashaideh, H., & Alharbi, H. (2022). The COVID-19 Pandemic and E-Learning: Challenges and Opportunities from the Perspective of Students and Instructors. *Journal of Computing in Higher Education, 34*(1), 21-38. https://doi.org/10.1007/s12528-021-09274-2

Mahdi, O. R., Nassar, I. A., & Almuslamani, H. A. I. (2020). The Role of Using Case Studies Method in Improving Students' Critical Thinking Skills in Higher Education. *International Journal of Higher Education, 9*(2), 297-308. https://doi.org/10.5430/ijhe.v9n2p297

Maulidah, H. F., Baharun, H., Hefniy, H., & Tohet, M. (2023). Teacher Assistance in the Development of Merdeka Curriculum Learning Devices. *Communautaire: Journal of Community Service, 2*(2), 98-107. https://doi.org/10.61987/communautaire.v2i2.257

Norman, E., & Paramansyah, A. (2023). The Influence of Inspiring Leadership and Religiosity on Teacher Performance. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam, 8*(2), 438-450. https://doi.org/10.33650/al-tanzim.v8i2.6732

Nur, A. S., Waluya, S. B., Rochmad, R., & Wardono, W. (2020). Contextual Learning with Ethnomathematics in Enhancing the Problem Solving Based on Thinking Levels. *Journal of Research and Advances in Mathematics Education, 5*(3), 331-344. https://doi.org/10.23917/jramathedu.v5i3.11679

Nurkhin, A., & Pramusinto, H. (2020). Problem-Based Learning Strategy: Its Impact on Students' Critical and Creative Thinking Skills. *European Journal of Educational Research, 9*(3), 1141–1150. https://doi.org/10.12973/eu-jer.9.3.1141

Posada-Quintero, H. F., & Chon, K. H. (2020). Innovations in Electrodermal Activity Data Collection and Signal Processing: A Systematic Review. *Sensors, 20*(2), 479. https://doi.org/10.3390/s20020479

Rojon, C., Okupe, A., & McDowall, A. (2021). Utilization and Development of Systematic Reviews in Management Research: What Do We Know and Where Do We Go from Here? *International Journal of Management Reviews, 23*(2), 191-223. https://doi.org/10.1111/ijmr.12245

Rusdi, N., Suhermanto, S., & Ali, W. (2022). Internalisasi Nilai-Nilai Pendidikan Agama di Sekolah: Perspektif Manajemen Pendidikan Islam. *Journal of Educational Management Research, 1*(2), 82-94. https://doi.org/10.61987/jemr.v1i2.39

Sanjani, M. A. F. (2023). Improving Islamic Religious Education Teachers' Performance through Effective School Leadership. *AFKARINA: Jurnal Pendidikan Agama Islam, 8*(1), 12-24. https://doi.org/10.33650/afkarina.v8i1.5331

Shanta, S., & Wells, J. G. (2022). T/E Design-Based Learning: Assessing Student Critical Thinking and Problem-Solving Abilities. *International Journal of Technology and Design Education, 32*(1), 267-285. https://doi.org/10.1007/s10798-020-09608-8

Sistermans, I. J. (2020). Integrating Competency-Based Education with A Case-Based or Problem-Based Learning Approach in Online Health Sciences. *Asia Pacific Education Review, 21*(4), 683. https://doi.org/10.1007/s12564-020-09658-6

Smith, K., Maynard, N., Berry, & Smith, T. (2022). Principles of Problem-Based Learning (PBL) in STEM Education: Using Expert Wisdom and Research to Frame Educational Practice. *Education Sciences, 12*(10), 728. https://doi.org/10.3390/educsci12100728

Susilawati, S., & Astuti, R. N. (2022). Improving Student Learning Outcomes through the Development of Videoscribe Sparkol-Based Learning Media. *Jurnal At-Tarbiyat: Jurnal Pendidikan Islam, 5*(3).

Tuma, F. (2021). The Use of Educational Technology for Interactive Teaching in Lectures. *Annals of Medicine and Surgery, 6*(2), 231-235. https://doi.org/10.1016/j.amsu.2021.01.051

Villarroel, V., Benavente, M., Chuecas, M. J., & Bruna, D. (2020). Experiential Learning in Higher Education. A Student-Centered Teaching Method That Improves Perceived Learning. *Journal of University Teaching & Learning Practice, 17*(5), 8. https://doi.org/10.53761/1.17.5.8

Wijaya, M. H., & Khoir, A. (2022). Fostering Public Trust: The Transformative Leadership of School Principals. *Indonesian Journal of Education and Social Studies, 1*(1), 51-62. https://doi.org/10.33650/ijess.v1i1.3475

Zaini, A. W. (2023). Beyond the Curriculum: Exploring the Influence of Islamic Values and Teacher Role Models on Student Character Formation. *AFKARINA: Jurnal Pendidikan Agama Islam, 9*(1), 23-34. https://doi.org/10.33650/afkarina.v8i2.9389